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The Kelly Report On People In The Electronic Office II:

How Office Workers View Automation

KELLY SERVICES The "Kelly Girl" People

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Introduction

Office automation marks one of the most dramatic changes in business operations in over a generation. In fact, widespread integration of word and data processing capabilities constitutes a far more radical departure from the past than the introduction of electric typewriters or photocopiers did earlier. That equipment contributed to increased speed in information generation and duplication, but still represented paper-based extensions of existing procedures.

But the electronic revolution now in full swing is fundamentally altering not only the *way* things are done, but *what* is done in the office. While the full potential of this process has only been realized in a few companies so far, the impact has already been substantial throughout the business community.

With this second report in its series on *People in the Electronic Office*, Kelly Services, the nation's largest supplier of temporary office and clerical help, continues to focus attention on the impact of this equipment on the people who use it. The first report presented the opinions of 500 managers in the FORTUNE 1300 firms regarding office automation, how the decision to automate was reached and how management perceived the impact of automation on support staff.

In this second report, non-managerial employees offer their own insights into the automation process: how conversion has changed their jobs and how the acquisition of new skills may affect their long-term employment.

This report is based on 473 interviews with support personnel drawn from the same pool of companies. Wherever possible, the views of

management and staff are compared to reveal consensus or contrast. In addition, 134 employees in the top 500 Canadian firms were interviewed. The Canadian sample is compared throughout to the U.S. support staff sample, both in the tables and within the text. (A complete description of the methodology can be found at the end of this report.)

Demographic and Employment Information on Respondents

- Eighty-four percent (84%) of the U.S. respondents and 74% of the Canadian respondents are female.

- Almost half (49% U.S., 45% Canada) are between the ages of 25 and 34. Thirty percent (30%) of the U.S. employees interviewed and 28% of the Canadians are 35 to 49. Overall, respondents ranged in age from 18 to over 65.

- About half the respondents are married (52% U.S., 57% Canada) and one-third are single (32% U.S., 37% Canada).

- In the United States sample, 30% of the respondents work in the Northeast, 20% are from the South, 37% are from North Central states and 14% are from the West.

- In the United States sample, 30% of respondents are secretaries, 30% are primarily word processing operators, and 18% work with data processing equipment. For Canada, 31% are data processing employees, 23% work with word processors and 22% classify themselves as secretaries.

- About one in four has worked at her/his present place of employment for less than three years (36% U.S., 41% Canada); 32% of the Americans and 26% of the Canadians have been employed by the same company for seven years or more.

Comparisons: Canada and the United States

- Eighty-three percent (83%) of Canadian employees say their jobs were upgraded as a result of the conversion, compared to 95% of their U.S. counterparts.

- Similarly, only 37% of Canadians received salary increases, compared to 49% of U.S. employees.

- 84% of Canadian, but 94% of U.S. support personnel, say their new skills have opened up opportunities for advancement.

- Forty-one percent (41%) of Canadian and 59% of U.S. support staff believe that English grammar has become more relevant to their jobs.

- A fifth of the employees in the U.S. sample (19%), but only 8% of the Canadians, say office automation has widened the gap between managers and employees.

I. The Conversion Process: From Traditional to Automated Office

The transition from traditional office operations to widespread use of electronic equipment can be a trying time for the entire corporate enterprise. For the decision makers, it represents a substantial capital investment undertaken (as the first study showed) primarily to increase productivity, speed and accuracy. But for the support staff who must learn to operate the new equipment (54% of the U.S. sample, 45% of the Canadian), the concerns are immediate and personal, and the adjustments in their daily routines far greater. This chapter examines the psychological and social effects of automation on office workers. The responses of U.S. managers to similar questions in the first survey are also included.

- Ninety-one percent (91%) of employees in the United States and 80% in Canada who were present when their employers made the conversion to the electronic office believe managers handled the conversion very or moderately well.

- About half of those who were present during the conversion say employees felt some apprehension prior to introduction of the new equipment.

- Four of ten U.S. employees (43%) say secretaries were the group most affected by apprehension, while only 13% believe clerical

workers were most affected. More managers (40%), on the other hand, believe clericals were most affected, and only 22% cite secretaries.

- The focus of the apprehension in the United States was fear of computers (30%), skepticism (25%), fear of losing job security (22%) and a general fear of change or of the unknown (20%).

- Managers, on the other hand, most often attribute the apprehension to a general, unfocused fear (57%). They seriously underestimate the extent of computer fear (mentioned by only 8%) and skepticism (4%).

- The overwhelming majority of employees believe the initial apprehension has dissipated, primarily through direct experience with the new electronic equipment.

- When asked if they had personally experienced apprehension, only one in five say they had.

- A quarter of the employees who had been present when the conversion took place say other problems arose as well, in terms of morale, rivalries or resentment. Of this group, 25% say that problems still exist.

- Managers are much less aware or willing to admit that problems still exist (3%).

Management Success and Employee Apprehension

The overwhelming number of respondents who were at their current place of employment when the conversion to the electronic office took place give their management high marks for the way they handled the conversion. In fact, over half — 55% on both sides of the border — believe the conversion was handled "very well" in terms of its impact on employees (see Table 1.2). This sentiment appears to cut across all demographic and other lines.

Table 1.2: How well do you believe management handled the conversion to electronic equipment, in terms of its impact on existing employees?

	United States		Canada	
	%		%	
Very well	55	91%	55	80%
Moderately well	36		25	
Not very well	4		7	
Very badly	2		5	
Other	2		8	
(Number of respondents)	(254)		(60)	

About half this subsample (48%), however, reported that employees felt apprehension regarding the introduction of new equipment prior to its introduction (see Table 1.3).

Table 1.3: Was there any apprehension among existing support staff regarding the introduction of new equipment prior to its installation?

	Employees		Managers
	United States	Canada	U.S.
	%	%	%
Yes	48	48	58
No	51	47	42
(Number of respondents)	(254)	(60)	(269)

Word processing operators noticed this apprehension more than other employees. Sixty-two percent (62%) of those United States respondents whose job title is word processing operator say the new equipment produced apprehension, compared to only 50% or less of other groups (see Table 1.4).

Table 1.4: Was there any apprehension among existing support staff? BY job category

	United States			Canada		
	Yes	No	N*	Yes	No	N*
	%	%		%	%	
Secretary	44	56	(98)	46	54	(11)
Administrative assistant	50	50	(24)	67	33	(9)
Clerk or clerk typist	43	57	(7)	0	100	(3)
Word processing operator	62	38	(74)	59	41	(17)
Data processing operator	38	62	(29)	18	82	(11)
Keypunch operator	0	100	(2)	100	0	(1)

*N = Number of respondents

Most employees claim secretaries were the group most affected by apprehension prior to the introduction of electronic equipment (43% U.S., 38% Canada). The second largest group of respondents says *all* workers were equally affected (22% U.S., 24% Canada). Clerical workers (including typists) and older staff members followed in voicing concern over the electronic conversion (see Table 1.5).

Managers, however, held a completely different perception. They believed clericals were more affected than any other worker category (40%). Twenty-two percent (22%) said secretaries were most affected, and 12% believed that all employees were equally affected.

Table 1.5: What type of staff did it affect most?

	Employees		Managers
	United States	Canada	U.S.
	%	%	%
Clerical (include typists)	13	17	40
Secretarial	43	38	22
Data processing	2	3	8
Accounting	2	7	6
Managerial	3	0	3
Older staff members	12	7	1
All employees equally	22	24	12
Other	2	3	8
(Number of respondents)	(122)	(29)	(264)

When asked to name the *focus* of this apprehension, the U.S. sample divided fairly evenly among fear of computers (30%), skepticism about the wisdom of the conversion (25%), fear of loss of job security (22%), and a general fear of change or the unknown (20%).

The contrast between the U.S. employee and employer perceptions is particularly striking in this regard. A somewhat higher percentage of employers (58%) claimed the introduction of electronic equipment generated worker apprehension. But their sense of the focus of this apprehension differed markedly from the actual employee perception.

One half (57%) of the managers attributed this apprehension to general, unfocused fear — over twice the employee-reported rate. Managers underestimated the levels of computer fear (8% compared to 30%) and skepticism at their decision (4% compared to 25%). They did, however, recognize the implied threat to job security at about the actual employee rate (26% to 22%).

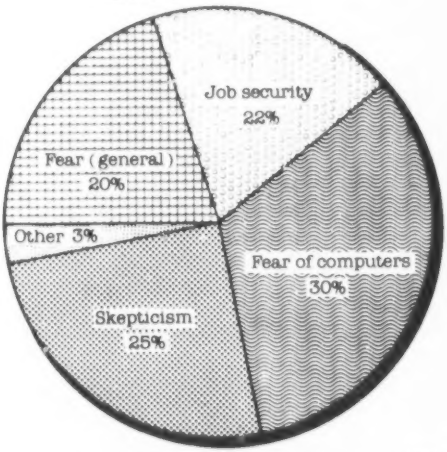
This strongly suggests that managers are not aware of the real concerns of their employees regarding office automation. While they tended to see employee fear as generalized, employees themselves actually had a fairly well-defined focus of apprehension in most cases (see Chart 1.6).

Most employees (85% U.S., 90% Canada) believe this initial apprehension has dissipated, primarily through direct experience with the new electronic equipment (see Table 1.7). These findings correspond fairly closely to those provided by the managers.

Chart 1.6: Perceived Focus of Apprehension

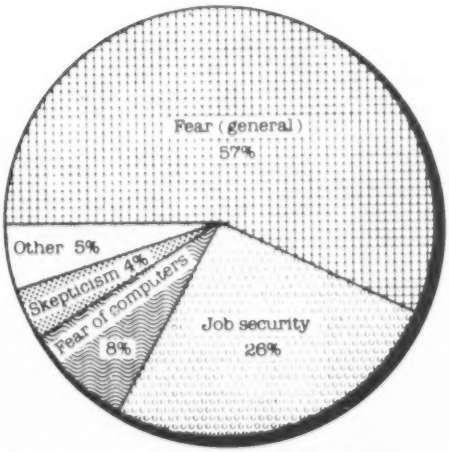
What was the focus of the apprehension?

Employees



(Number of respondents) (122)

Managers



(Number of respondents) (269)

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Table 1.7: Has this initial apprehension been dissipated?

	Employees		Managers
	United States	Canada	U.S.
	%	%	%
Yes	85	90	91
No	13	10	9
Don't know	2	—	—
(Number of respondents)	(122)	(29)	(245)

When respondents were asked directly if *they* had felt apprehension, only one in five admitted she/he had (see Table 1.8). Personal apprehension (or at least the willingness to admit to it) was more prevalent among women (22% to 5% men, U.S. only) and older employees.

The good news, however, is that almost all of these people claim their own apprehension has dissipated, in most cases through experience with the new equipment (see Table 1.9).

Table 1.8: How about yourself — did *you* feel any apprehension prior to the installation of new equipment?

	United States	Canada
	%	%
Yes	20	17
No	80	80
Don't know	0	3
(Number of respondents)	(254)	(60)

Table 1.9: Has your apprehension been dissipated?

	Employees		Managers
	United States	Canada	U.S.
	%	%	%
Yes	98	100	91
Not completely	2	—	—
No	—	—	9
(Number of respondents)	(53)	(10)	(245)

Social Problems

A quarter of the employees interviewed (25% U.S., 23% Canada) who had been with the firm during the actual introduction of new, electronic equipment believe the changeover generated problems in terms of morale, new rivalries or resentment (see Table 1.10). U.S. respondents in the Northeast noted more problems than those in the South and West, while those in the North Central region fall somewhere in between (see Table 1.11).

Table 1.10: Did the introduction of new equipment produce any problems with the office environment, in terms of morale, new rivalries or resentments, etc.?

	Employees		Managers
	United States	Canada	U.S.
	%	%	%
Yes	25	23	18
No	74	77	82
Don't know	1	—	—
(Number of respondents)	(254)	(60)	(458)

Table 1.11: Did the introduction of new equipment produce any problems? BY region

	Yes	No	(Number of respondents)
	%	%	
Northeast	30	70	(79)
South	17	83	(46)
North Central	26	74	(103)
West	17	83	(23)

Managers and employees were in close agreement about the level of disruption caused by electronic equipment and management's role in addressing the problem (see Table 1.12). But managers appear far more reluctant to concede that problems still exist. Of the group in each sample who admitted there had been some problems, only 3% of the managers vs. 25% of U.S. employees said the problems persisted.

Table 1.12: If so, how were these problems dealt with?

	Employees		Managers
	United States	Canada	U.S.
	%	%	%
Strong management support	51	57	47
Management insistence or fiat	13	—	9
Problems still exist	25	21	3
Other	11	21	41
(Number of respondents)	(63)	(14)	(89)

II. The Impact of Electronic Conversion on Office Workers

The transition to the electronic office has a profound impact on support staff, one that goes far beyond temporary psychological and social adjustments. It alters the very nature of their jobs and provides them with new, marketable skills. How employees themselves perceive these changes is the subject of this chapter. The first part focuses on the actual changes experienced by those who lived through the conversion at their present employer. The second examines the potential long-range impact of automation in the office as perceived by the entire sample.

- Approximately 40% of the employees say the introduction of new equipment in the office changed their job description or job category.

- The overwhelming majority say their position was upgraded rather than downgraded. Managers concur.

- Three-quarters of employees say their new skills have enabled them to exercise greater responsibility.

- About half of U.S. employees (48%), but only 37% of Canadians, say the changes resulted in a salary increase.

- About one in four says her/his job has become more routine since the introduction of new equipment.

- Most employees in both samples (90% U.S., 84% Canada) say their new skills have improved their overall position on the job.

- Most also say the skills have opened up new opportunities for advancement, although more U.S. personnel (94%) than Canadian (84%) feel this way.

- An overwhelming number of employees interviewed in the United States (98%) and Canada (95%) believe their new skills have improved their overall position in the job market.

- Half believe automation has lessened the gap between themselves and managerial staff. Nineteen percent of the Americans and only 8% of the Canadian employees believe it has widened the gap.

- Six of ten American employees, but only four in ten Canadian employees, believe automation has increased the relevance of traditional language skills.

- Almost all secretaries (97% U.S., 90% Canada) believe that their own speed and efficiency have increased as a result of the conversion to the electronic office.

Part A: Job Changes Experienced as a Result of Automation

Four out of ten of the support personnel present during the conversion process (42% U.S., 38% Canada) say the introduction of new equipment changed their job category or description (see Table 2.1). Employees in the North Central and Western regions of the United States report a change in their job description more often than others (see Table 2.2).

Table 2.1: Has the introduction of new electronic equipment changed your job category or description?

	Employees		Managers
	United States	Canada	U.S.
	%	%	%
Yes	42	38	48
No	58	62	52
(Number of respondents)	(254)	(60)	(479)

Table 2.2: Has the introduction of new electronic equipment changed your job category or description? BY region

	Yes	No	(Number of respondents)
	%	%	
Northeast	38	62	(79)
South	36	64	(47)
North Central	46	54	(104)
West	50	50	(24)

Of those who say their job category has changed, nearly all the U.S. (95%) and most of the Canadian sample (85%) describe the change as having upgraded their position (see Table 2.3).

These findings mirror the managers' opinions fairly closely: half of the managers (48%) believed the electronic conversion had changed worker job categories.*

Table 2.3: If yes, how?

	Employees		Managers
	United States	Canada	U.S.
	%	%	%
Position upgraded	95	83	64
Position downgraded	2	—	1
Other	3	17	35
(Number of respondents)	(107)	(23)	(217)

*While only 64% described this change specifically as upgrading, the number would undoubtedly have been higher if the question had been asked as a closed-ended rather than an open-ended one. Many managers provided very specific answers, such as the conversion "added more word-processing skills" or "more decision-making." In fact, it was nearly impossible to establish distinct categories for these responses, which accounts for the unusually large number of "other" responses.

Increased Responsibility and Salary

Three-quarters of the personnel present during the conversion claim their new electronic skills have enabled them to exercise greater responsibility or decision-making (see Table 2.4).

Table 2.4: Has it resulted in your being able to exercise greater responsibility or decision-making?

	United States	Canada
	%	%
Yes	73	75
No	26	25
Don't know	1	—
(Number of respondents)	(254)	(60)

Data and word processing employees are particularly likely to say their responsibility has increased (see Table 2.5). Over 80% of these groups reported such an increase, compared to only two-thirds of secretaries and administrative assistants and even fewer clerks and clerk typists (57%).

Managers apparently view this situation quite differently. When asked if they believed automation had increased *secretarial* responsibility, only a third (35%) said yes (see Chart 2.6). Thus secretaries are twice as likely as management to believe their responsibility has been enhanced.

Table 2.5: Has it resulted in your being able to exercise greater responsibility or decision-making? BY job description

	United States			Canada		
	Yes %	No %	N	Yes %	No %	N
Secretary	67	33	(98)	67	33	(12)
Administrative assistant	70	30	(23)	89	11	(9)
Clerk or clerk typist	57	43	(7)	50	50	(4)
Word processing operator	81	19	(75)	77	23	(17)
Data processing operator	89	11	(28)	83	17	(12)
Keypunch operator	0	100	(2)	100	0	(1)

Among the employees, men are particularly likely to say their responsibility has increased as a result of automation (90% to 73% women), and among the U.S. sample, younger respondents are also especially likely to say this (see Table 2.7 and 2.8).

Chart 2.6: Has office automation resulted in greater secretarial responsibility?

Secretarial versus managerial view.

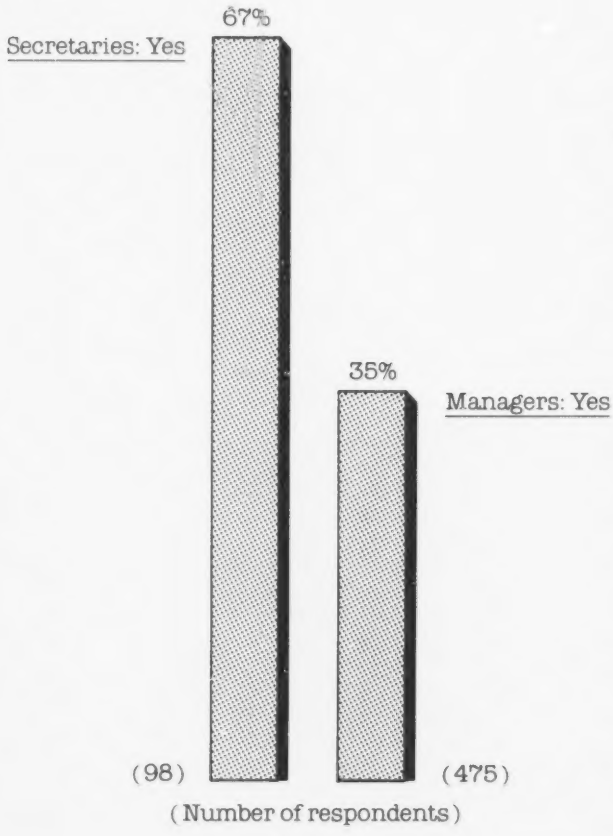


Table 2.7: Has it resulted in your being able to exercise greater responsibility or decision-making? BY gender

	United States		Canada	
	Male	Female	Male	Female
	%	%	%	%
Yes	90	73	86	72
No	10	27	14	28
(Number of respondents)	(20)	(231)	(14)	(46)

Table 2.8: Has it resulted in your being able to exercise greater responsibility or decision-making ? BY age

	United States		(Number of respondents)
	Yes	No	
	%	%	
18-24	89	12	(26)
25-34	80	20	(117)
35-49	68	32	(85)
50-64	56	44	(18)
65 and older	50	50	(2)

Nearly half the United States (48%), but somewhat fewer Canadian respondents (37%), say they received salary increases because of their new skills (see Table 2.9). Men, administrative assistants and word and data processing operators are particularly likely to say the new skills have resulted in a salary increase (see Tables 2.10 and 2.11).

Table 2.9: Have you received a salary increase because of your new skills?

	United States	Canada
	%	%
Yes	48	37
No	51	63
(Number of respondents)	(254)	(60)

Table 2.10: Have you received a salary increase because of your new skills? BY gender

	United States		Canada	
	Male	Female	Male	Female
	%	%	%	%
Yes	65	47	36	37
No	35	53	64	63
(Number of respondents)	(20)	(232)	(14)	(46)

Table 2.11: Have you received a salary increase because of your new skills? BY job description

	United States			Canada		
	Yes	No	N	Yes	No	N
	%	%		%	%	
Secretary	29	71	(98)	33	67	(12)
Administrative assistant	54	46	(24)	33	67	(9)
Clerk or clerk typist	0	100	(7)	0	100	(4)
Word processing operator	68	32	(74)	41	59	(17)
Data processing operator	62	38	(29)	58	42	(12)
Keypunch operator	50	50	(2)	0	100	(1)

One in four (29% U.S., 25% Canada) believes her/his job has become more routine due to the introduction of new equipment (see Table 2.12). This is slightly lower than the response level provided by the managers, 34% of whom believed certain jobs had become more routine because of new equipment.

Table 2.12: Has your job become more routine because of new equipment?

	Employees		Managers
	United States	Canada	U.S.
	%	%	%
Yes	29	25	34
No	70	73	66
Don't know	1	2	—
(Number of respondents)	(254)	(60)	(470)

As might be expected, some strong correlations emerge among responses to the questions raised in this chapter. Over three-quarters (78%) of the U.S. sample who claim the new equipment changed their job category or description received a raise, and 93% claim it enabled them to exercise greater responsibility (see Table 2.13 and 2.14).

Table 2.13: Has the introduction of new equipment changed your job description? BY have you received a salary increase because of your new skills?

	Changed Job Description?	
	United States	
Received Salary Increase?	Yes	No
	%	%
Yes	78	27
No	22	73
(Number of respondents)	(106)	(146)

Table 2.14: Has the introduction of new equipment changed your job description? BY has it resulted in your exercising greater responsibility?

	Changed Job Description?	
	United States	
Exercise Greater Responsibility?	Yes	No
	%	%
Yes	93	60
No	7	40
(Number of respondents)	(107)	(144)

Part B: Long-term Implications

While it may seem premature to discuss the "long-term" implications of a phenomenon as recent as office automation, the survey did uncover definite attitudinal patterns that could become significant trends in the office of the future.

Most respondents (90% U.S., 84% Canada) report that their new electronic skills have improved their overall position at their present jobs (see Table 2.15). Employees in the southern United States report an improved position less often than others (see Table 2.16).

Table 2.15: In general, do you believe your new word processing or data processing skills have:

	United States	Canada
	%	%
Improved your overall position at your present job	90	84
Weakened your overall position at your present job	—	3
Not affected your position at your present job	9	11
Don't know	—	2
(Number of respondents)	(473)	(134)

Table 2.16: In general, do you believe your new word processing or data processing skills have: BY region

	Northeast	South	North Central	West
	%	%	%	%
Improved your overall position at your present job	94	82	93	90
Weakened your overall position at your present job	—	—	1	2
Not affected your position at your present job	6	19	6	8
(Number of respondents)	(141)	(96)	(171)	(63)

Most respondents also are convinced that these skills have opened up new opportunities for advancement, although Canadians appear slightly less convinced of the mobility benefits provided by the new skills (see Table 2.17). This sentiment cuts across all demographic and other lines.

Table 2.17: Do you believe that word processing, data processing, or other new electronic fields have opened up new opportunities for your advancement?

	United States	Canada
	%	%
Yes	94	84
No	5	14
Other	1	2
(Number of respondents)	(473)	(134)

Practically all the support personnel interviewed on both sides of the border (98% U.S., 95% Canada) believe their new skills have also improved their overall marketability in the job market (see Table 2.18).

Half the employees (56% U.S., 50% Canada) believe office automation has lessened the gap between themselves and managerial staff (see Table 2.19). A fifth of the U.S. sample (19%) sees automation as widening this gap, compared to only 8% of the Canadians. The rest say it has had no effect.

Table 2.18: Do you believe your new word processing, data processing, or other skills have improved your overall marketability in the job market?

	United States	Canada
	%	%
Yes	98	95
No	2	5
(Number of respondents)	(473)	(134)

Table 2.19: Do you believe that office automation has lessened or widened the gap between you and managerial staff?

	United States	Canada
	%	%
Lessened	56	50
Widened	19	8
Had no effect	22	35
Don't know	3	7
(Number of respondents)	(473)	(134)

Six out of ten U.S. support personnel believe that office automation has *increased* the relevance of traditional language skills, such as English usage and grammar (see Table 2.20). This differs markedly from the Canadians, among whom only four in ten thought this was so. But only one in ten in both countries thought automation had reduced the relevance of language proficiency.

These findings appear to counter the concerns expressed by some that the prevalence of electronic equipment will contribute to the further decline in knowledge of — and need for — traditional language skills. On the contrary, our findings strongly indicate that the users of such equipment themselves recognize the increased importance of such skills, especially in the U.S.

Table 2.20: Do you believe traditional language skills, such as English usage and grammar, have become more or less relevant to your new job now that you use electronic equipment?

	United States	Canada
	%	%
More	59	41
Less	10	12
No effect	31	47
Other	1	—
(Number of respondents)	(473)	(134)

Finally, almost all the secretaries interviewed (97% U.S., 90% Canada) believe the speed and efficiency of their own total performance have improved because of new electronic equipment (see Table 2.21). This would indicate that new electronic skills, rather than leading to some sort of mechanical specialization, actually contribute to the entire secretarial performance.

Table 2.21: Have the speed and efficiency of your own total secretarial job been improved because of new electronic equipment?

	United States	Canada
	%	%
Yes	97	90
No	2	7
No effect	—	—
Other	1	3
(Number of respondents)	(473)	(30)

III. Focus on Word Processing

The widespread dissemination of word processing equipment probably represents the single most dramatic departure from the office of the past. It is not only a newer development than data processing, but it captures the imagination in two respects:

1) It deals with all kinds of office information, not just numerical, so it can be used by almost all types of workers.

2) It marks the first tangible departure from paper-based information and communication systems.

How and when people were trained to operate word processing equipment is the subject of this chapter.

- Two-thirds of employees with word processing skills (66% U.S., 67% Canada) say they received their training in the past three years, and nearly half of these were trained within the past year.

- Three-quarters of the employees (78% U.S., 76% Canada) were trained while working with their current employer.

- Almost equal percentages were trained by a vendor representative, supervisor or other staff member, or trained themselves.

- The vast majority (85% U.S., 87% Canada) believe word processing training was adequate.

Word processing ability appears to be a relatively recent acquisition for most respondents. Two-thirds of those utilizing these skills (66% U.S., 67% Canada) were first trained to operate word processing equipment three years ago or less, and nearly half of these (29%) were trained within the past year (see Table 3.1). In three out of four cases (78% U.S., 76% Canada) respondents had been trained while employed by their present employer (see Table 3.2). These findings reflect the newness of both the development and widespread introduction of word processing technology.

Table 3.1: When were you first trained to operate word processing equipment?

	United States	Canada
	%	%
One year ago or less	29 } 66%	29 } 67%
One to three years ago	37 }	38 }
Three to five years ago	15	20
Five to seven years ago	8	10
Seven years ago or more	11	2
(Number of respondents)	(337)	(79)

Table 3.2: Was this before or after you joined your present employer?

	United States	Canada
	%	%
Before	22	24
After	78	76
(Number of respondents)	(337)	(79)

Those who classify themselves as word processing operators are much more likely than secretaries to have received their training prior to joining their current employer. Thirty-two percent (32%) of the U.S. respondents who call themselves word processing operators received their training before their present job, while only 14% of the secretaries did. The results are similar for the Canadian Sample (see Table 3.3).

Table 3.3: Was this before or after you joined your present employer? BY job title

	United States			Canada		
	Before	After	N	Before	After	N
	%	%		%	%	
Secretary	14	86	(140)	14	86	(29)
Administrative assistant	17	83	(30)	17	83	(6)
Clerk or clerk typist	29	71	(7)	0	100	(2)
Word processing operator	32	68	(138)	40	60	(30)
Data processing operator	11	89	(9)	17	83	(6)

It appears, then, that many employees who receive training on the job retain their old title, while those who are trained prior to taking a job classify themselves by the more specialized title of word processing operator.

A gender difference appears as well, but only in the U.S. Half of the men in the American sample received their training before their current job and half received it after. For women, 79% were trained by their current employer. The Canadian sample, for both men and women, resembles the American women (see Table 3.4).

Table 3.4: Was this before or after you joined your present employer? BY gender

	United States		Canada	
	Male	Female	Male	Female
	%	%	%	%
Before	50	21	17	25
After	50	79	83	75
(Number of respondents)	(12)	(325)	(6)	(73)

The sample divided roughly evenly among those who received their training from a vendor representative (34% U.S., 39% Canada), supervisor or other member of their company staff (28% U.S., 34% Canada) and those who trained themselves with a manual (26% U.S., 22% Canada). The Canadian sample was somewhat less evenly divided (see Table 3.5).

Table 3.5: Who trained you to do word processing?

	United States	Canada
	%	%
Supervisor or other member of staff	28	34
Vendor representative	34	39
Outside consultant or teacher	6	1
Teacher or class off premises	5	4
Trained self (manual)	26	22
Other	1	—
(Number of respondents)	(337)	(79)

Whatever the source of training, the overwhelming majority of word processing personnel (85% U.S., 87% Canada) believe their training was adequate (see Table 3.6). Young people are more likely than older people to say their training was adequate and those with relatively low incomes are more likely to do so than those with a higher salary. For the minority who do *not* consider their word processing training adequate, the major complaint was that it wasn't comprehensive enough.

Table 3.6: Do you believe your training was adequate?

	United States	Canada
	%	%
Yes	85	87
No	15	13
(Number of respondents)	(337)	(79)

IV. Focus on Data Processing

If word processing is just becoming a familiar concept to many Americans, data processing is a technology come of age. For years large mainframe computers served accounting, reporting, and other number-oriented departments, and most consumers have long become accustomed to computer-generated bills. But data processing is no longer the exclusive preserve of a single centralized operation. Miniaturization has brought the computer into every type of office operation, and the number of people directly engaged in data processing continues to increase every year.

- Half of the employees interviewed who possess data processing skills (51% U.S., 52% Canada) received their training five or more years ago, and half (52% U.S., 55% Canada) were trained while working for their current employer.

- In both countries, a majority of the men received their training in data processing before joining their current employer, while most of the women were trained after being hired.

- As with word processing, the vast majority (92% U.S., 85% Canada) of those skilled in data processing are satisfied with the training they received.

Half of those now using data processing equipment on the job received their training within the past five years, and half five years ago or more (see Table 4.1). And about the same number received their training while with their present employer (see Table 4.2). This contrasts sharply with word processing operators, four out of five of whom (81% U.S., 87% Canada) were trained within the past five years, and three-quarters (78% U.S., 76% Canada) while with their present employer (see Chart 4.3).

Table 4.1: When were you first trained to operate data processing equipment?

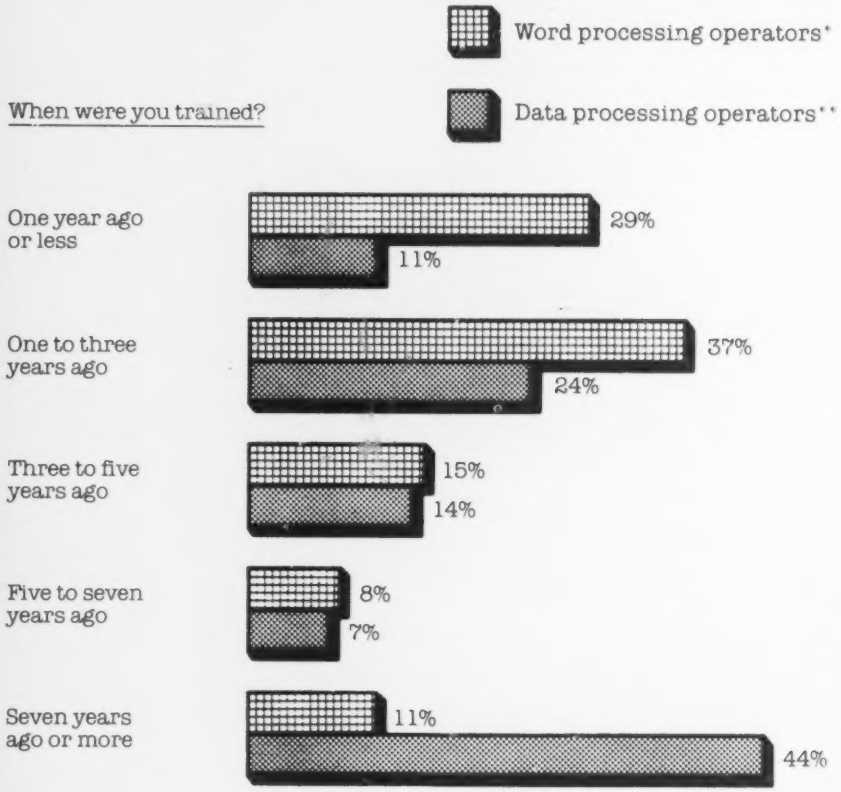
	United States		Canada	
	%		%	
One year ago or less	11		13	
One to three years ago	24		21	
Three to five years ago	14		13	
Five to seven years ago	7	51%	15	52%
Seven or more years ago	44		37	
(Number of respondents)	(169)		(67)	

Table 4.2: Was this before or after you joined your present employer?

	United States	Canada
	%	%
Before	48	45
After	52	55
(Number of respondents)	(169)	(67)

In both the United States and Canadian samples, the majority of men who are familiar with data processing received their training before joining their current employers, while the majority of women were trained after being hired (see Table 4.4).

Chart 4.3: The transition to the "Office of the Future": word processing vs. data processing operators.



* (Number of respondents) (337)

** (Number of respondents) (169)

Table 4.4: Was this before or after you joined your present employer? BY gender

	United States		Canada	
	Male	Female	Male	Female
	%	%	%	%
Before	61	40	61	29
After	39	60	39	71
(Number of respondents)	(72)	(96)	(33)	(34)

Despite some differences between word processing and data processing personnel, data processing operators are just as satisfied with their training as those in word processing: the overwhelming number (91% U.S., 85% Canada) believe it was adequate (see Table 4.5). Older employees and those with a higher personal income are especially likely to say they believe their training was adequate. These findings are the exact opposite of the findings for word processing, where the wealthier and older respondents were *less* satisfied with their word processing training.

For those few who were not satisfied with their training, the complaint was essentially the same — the training wasn't comprehensive enough.

Sixteen percent (16%) of the total sample can operate both word and data processing equipment, and half of these (8%) do so regularly.

Table 4.5: Do you believe the training was adequate?

	United States	Canada
	%	%
Yes	91	85
No	9	15
(Number of respondents)	(169)	(67)

Methodology

This report is based on telephone interviews with support (non-managerial) staff who use word or data processing equipment as part of their regular functions at the largest U.S. and Canadian firms. The U.S. sample consists of 473 such employees at FORTUNE 1350 companies (these include the 1000 largest industrial and fifty largest non-industrial firms in seven different categories). The Canadian sample consists of 134 employees in the top 500 Canadian firms (based on the *Canadian Business* list published July, 1982). All interviews were conducted between February 1 and 17, 1983. All but 17% of the total U.S. sample was drawn from the industrial companies (see Table M.1).

Some of the material included in the present report is taken from the first report in the series, based on 500 interviews with FORTUNE 1350 managers, issued October, 1982.

Because of the difficulties in reaching non-managerial employees, letters were sent to the personnel directors of all the U.S. companies, explaining the purpose of the survey and requesting they arrange to make a support staff member available. A copy of the first report was included with the letter.

The questionnaires included closed-ended and a few open-ended questions. Many were identical or similar to questions already asked the managers in the earlier survey.

All phases of the research and report preparation were carried out by Research & Forecasts, Inc. of New York City.

Table M.1: U.S. sample by SIC code.

Standard Industrial Classification	Total Sample %
0111-1799: Agriculture, mining and construction	7
2011-2795: Manufacturing 1: Food, apparel, lumber, paper, printing	17
2812-3299: Manufacturing 2: Chemicals, petroleum, leather, stone	12
3312-3999: Manufacturing 3: Metal, machinery, electrical, transportation, measuring equipment	31
4011-4971: Transportation, communication, public utilities	7
5012-5999: Wholesale and retail trade	6
6011-6799: Finance, insurance and real estate	9
7011-8999: Services	2
Number of respondents	(473)